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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,577

10/27/2003

Beat Krattiger

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EXAMINER

LEUBECKER, JOHN P

ART UNIT

PAPER NUMBER

3739

MAIL DATE

DELIVERY MODE

06/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/694,577

Applicant(s)

KRATTIGER ET AL.

Examiner

John P. Leubecker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6,9-16,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,9-13,15,16,28 and 29 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 13, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki (U.S. Pat. 4,919,114).

Referring mainly to Figure 3, Miyazaki discloses a shaft (7) having a distal end (11); an interchangeable head (21) detachably connected to said distal end of said shaft at a coupling point; a first transmission system for transmission of illuminating power in a distal direction, said first transmission system being arranged partially in said shaft (17) and partially in said interchangeable head (33) and passing through said coupling point; a second transmission system for transmission of image information in a proximal direction, said second transmission system being arranged partially in said shaft (41,43) and partially in said interchangeable head (31) and passing through said coupling point; at least one of said interchangeable head and said coupling point being designed in such a way that upon loosening of said interchangeable head image information of perceptively modified quality is transmitted by said second transmission system (any axial distance will change the focus, which is a “perceptively modified quality”); wherein said second transmission system has imaging optics (31,41,43), said imaging optics being arranged partially in said interchangeable head (31) and partially in said shaft (41,43), a part of said imaging optics arranged in said shaft is exchangeable in said shaft (note plurality of screws 51, Fig.3, col.4, lines 1-8 which hold frame 49 to tip). As to claim 13, note O-ring (38) which inherently provides distancing force between the head and shaft by nature of the tight fit and

elasticity. As to claims 28 and 29, the shaft side imaging optics (41,43) form a first imaging part that is capable of being exchanged with a second imaging part, whether the second imaging part has the same or different optical properties.

3. Claims 1, 13, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuyuki (U.S. Pat. 5,916,148).

Referring mainly to Figures 6 and 7, Tsuyuki discloses a shaft (Fig.6) having a distal end; an interchangeable head (AD') detachably connected to said distal end of said shaft at a coupling point; a first transmission system (14,23,24) for transmission of illuminating power in a distal direction, said first transmission system being arranged partially in said shaft (14) and partially in said interchangeable head (23,24) and passing through said coupling point; a second transmission system (M') for transmission of image information in a proximal direction, said second transmission system being arranged partially in said shaft (note lenses in adapter AD') and partially in said interchangeable head (Fig.6) and passing through said coupling point; at least one of said interchangeable head and said coupling point being designed in such a way that upon loosening of said interchangeable head image information of perceptively modified quality is transmitted by said second transmission system (any axial distance will change the focus, which is a "perceptively modified quality"); wherein said second transmission system has imaging optics (M' and lenses in AD'), said imaging optics being arranged partially in said interchangeable head (lenses in AD') and partially in said shaft (M'), a part of said imaging optics arranged in said shaft is exchangeable in said shaft (note that lens frame 15, Fig.6 is adjustably fitted by threads into frame 16, thereby allowing the capability of being exchanged,

col. 6, lines 62-67). As to claim 13, note O-ring (not numbered but shown in Figure 7) which inherently provides distancing force between the head and shaft by nature of the tight fit and elasticity. As to claims 28 and 29, the shaft side imaging optics (M') form a first imaging part that is capable of being exchanged with a second imaging part, and is thus "exchangeable with a second imaging part" whether the second imaging part has the same or different optical properties.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 9-12, 15, 16, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuyuki et al. (U.S. Pat. 5,547,457) in view of Pileski et al. (U.S. Pat. 5,379,756).

Referring mainly to Figure 2, Tsuyuki et al. disclose a shaft (M) having a distal end, an interchangeable head (AD) detachably connected to said distal end of said shaft at a coupling point (Fig.2); a first transmission system (LG) for transmission of illuminating power in a distal direction, said first transmission system being arranged partially in said shaft and partially in said interchangeable head and passing through said coupling point (Fig.2); a second transmission system (L1, LF, O, and IG) for transmission of image information in a proximal direction, said second transmission system being arranged partially in said shaft and partially in said interchangeable head and passing through said coupling point (Fig.2); at least one of said

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interchangeable head and said coupling point being designed in such a way that upon loosening of said interchangeable head image information of perceptively modified quality is transmitted by said second transmission system (any change in axial distance, such as upon loosening, will change the focus, which is a “perceptively modified quality”). The objective lens system (O) in the shaft appears to be permanently fixed in the shaft and does not appear to be “exchangeable” in the shaft.

Pileski et al. teach making the objective lens of an endoscope “exchangeable” (note Figs. 2 and 4) to “permit rapid repair of the laparoscope at minimal cost, without sacrifice of quality”. It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the apparent “permanent” lenses in the shaft (M) of Tsuyuki et al. “exchangeable” to allow for repair of a damaged objective lens (minimal cost) instead of replacement of the entire shaft.

As to claims 9-12, wire (WM) anticipates an electrically conductive positioning pin and the lumen it extends through anticipates a bore. As to claims 15 and 16, the end of wire (WM) in the interchangeable head anticipates an “operating element” engageable to the end in the distal shaft at plug (E). As to claims 28 and 29, the shaft side imaging optics (O), as made exchangeable in view of Pileski et al., form a first imaging part that is capable of being exchanged with a second imaging part, and is thus “exchangeable with a second imaging part” whether the second imaging part has the same or different optical properties.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuyuki et al. (‘457) in view of Pileski et al. and further in view of Abramson (U.S. Pat. 4,425,375).

Tsuyuki et al. in view of Pileski et al. disclose the device as described above but fails to mention that ends (at the coupling point) of the optical fiber waveguides are “polished”. If not inherent due to conventional optical fiber bundle manufacturing techniques, Abramson is just one reference cited as showing that such “polishing” of the end provides for increased light efficiency (col.1, lines 18-33), especially when two such ends are being optically connected. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a “polished” surface on the ends of the optical fiber waveguides of Tsuyuki et al.

#### ***Allowable Subject Matter***

7. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

8. Applicant's arguments filed March 19, 2007 have been fully considered but they are not persuasive.

Although the anticipatory rejections of the claims with respect to Tsuyuki et al. ('457) and Miyazaki ('923) have been withdrawn due to the amendments to the claims, new rejections appear above. It is noted that the Examiner is giving the interpretation to the phrase “exchangeable in said shaft” as intended by Applicant. A permanent coupling (e.g., cementing, welding, soldering, etc.), which is not intended to be destroyed so as to remove a lens after the

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endoscope is assembled, does not fall under the interpretation of “exchangeable”. Instead, the lenses would have to be easily removed by uncoupling a coupling that is intended to be uncoupled (such as, but in no way limited to, threads, snap fit, screws, etc.). Therefore, new rejections which show the claimed elements including “exchangeable” lens structures within the shaft have been applied.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tanaka (U.S. Pat. 6,554,767)

Tamburrino et al. (U.S. Pat. 5,512,036)

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

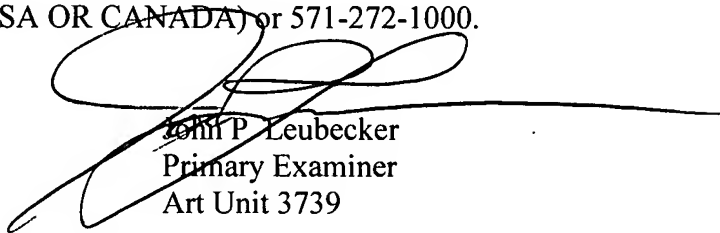
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (571) 272-4769. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John P. Leubecker  
Primary Examiner  
Art Unit 3739

jpl